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by a positive change of about one second annually, so as to become practically insensible in 1865–6, and then to increase regularly until it became nearly 10″ in 1876–77.

Mean Areas of Umbræ, Whole Spots, and Faculæ upon the Sun's Disk as measured on Photographs taken at the Royal Observatory, Greenwich, for each Rotation of the Sun from 1873, *July* 11.

(*Communicated by the Astronomer Royal.*)

The Mean Areas have been formed by taking the Means of the Areas for each day of observation throughout each rotation of the Sun, and are expressed in millionths of the Sun's visible hemisphere.

No. of Rotation.	Date of Commencement of each Rotation.		Mean Area.		
			Umbræ.	Whole Spots.	Faculæ.
1	1873	July 11	237	1308	3773
2		Aug. 6	118	683	4539
3		Aug. 31	78	460	4295
4		Sept. 25	153	798	3036
5		Oct. 21	107	668	1719
6		Nov. 15	37	244	1356
7		Dec. 11	80	583	1456
8	1874	Jan. 5	199	1172	3251
9		Jan. 30	51	318	1688
10		Feb. 25	47	426	436
11		Mar. 22	71	532	282
12		Apr. 16	54	488	60
13		May 12	38	291	259
14		June 6	39	436	513
15		July 2	174	1192	1519
16		July 27	206	1341	1963
17		Aug. 21	34	248	1906
18		Sept. 16	127	904	1645
19		Oct. 11	42	227	794
20		Nov. 6	60	437	773
21		Dec. 1	17	138	255
22		Dec. 26	17	99	1197
23	1875	Jan. 21	21	107	1069
24		Feb. 15	120	653	620
25		Mar. 12	56	321	643
26		Apr. 7	81	547	706
27		May 2	22	138	190

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No. of Rotation	Date of Commencement of each Rotation.		Mean Area.		
			Umbræ.	Whole Spots.	Faculæ.
28	1875	May 28	65	420	274
29		June 22	90	485	365
30		July 17	20	129	327
31		Aug. 12	24	128	598
32		Sept. 6	14	96	383
33		Oct. 1	17	98	259
34		Oct. 27	29	130	212
35		Nov. 21	78	377	164
36		Dec. 17	16	96	113
37	1876	Jan. 11	50	302	226
38		Feb. 5	66	348	318
39		Mar. 2	57	248	510
40		Mar. 27	8	40	324
41		Apr. 21	9	38	267
42		May 17	0	0	62
43		June 11	8	41	251
44		July 7	12	51	225
45		Aug. 1	7	28	80
46		Aug. 26	7	34	265
47		Sept. 21	34	136	209
48		Oct. 16	27	147	235
49		Nov. 11	37	130	163
50		Dec. 6	44	334	144
51	1877	Jan. 1	41	186	345
52		Jan. 26	13	64	131
53		Feb. 20	18	92	85
54		Mar. 17	8	41	320
55		Apr. 12	34	157	192
56		May 7	22	95	255
57		June 2	16	73	126
58		June 27	5	18	188
59		July 22	1	5	30
60		Aug. 17	21	102	217
61		Sept. 11	6	33	199
62		Oct. 6	35	187	46
63		Nov. 1	52	239	184
64		Nov. 26	27	115	75
65		Dec. 22	0	5	128

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Many of the photographs taken during the ninth and five following rotations, i.e., between 1874, January 30, and 1874, July 2, do not show the faculæ with sufficient distinctness to allow of their measurement; the mean areas of faculæ given for these rotations are therefore too small.

Mean Areas of Umbræ, Whole Spots, and Faculæ upon the Sun's Disk, as measured on Photographs taken at the Royal Observatory, Greenwich, for each Year, from 1873 *to* 1877.

The mean areas are expressed in millionths of the Sun's visible hemisphere.

Year.	Mean Area:		
	Umbræ.	Whole Spots.	Faculæ.
1873	116	678	2882
1874	83	582	1096
1875	45	255	475
1876	25	132	226
1877	20	94	168

Many of the photographs taken during the early part of 1874 do not show the faculæ with sufficient distinctness to allow of their measurement; the mean area of faculæ given for that year is therefore too small.

The mean area of faculæ for the half-year beginning 1874, July 2, is 1257.

Note on Hyperion. By Prof. Asaph Hall.

This faint satellite of *Saturn* has the most eccentric orbit of any known satellite, and its distance from *Saturn* is such that, combined with the large eccentricity, it can approach very near *Titan*, the largest satellite of the Saturnian system. This peculiar orbit of *Hyperion* renders its motion interesting, as it will be the means of giving us an accurate knowledge of the mass of the Ring and of *Titan*. My observations of *Hyperion* during the present year, 1878, seem to put it beyond doubt that the line of apsides of the orbit of *Hyperion* has revolved at least a semi-revolution, or 180°, since the time of the discovery of this satellite in 1848, by the Bonds and Lassell.

The only observations of *Hyperion* that I know of are those made by the Bonds in 1848, two or three observations by Professor G. P. Bond in 1849, the observations by Lassell* and Marth in 1864, and those made at Washington since 1874. The old observations of this satellite will be valuable for determining its time of revolution and the motion of the line of apsides. If other observations exist than those mentioned above, I shall be indebted to anyone who will inform me of them.

U.S. Naval Observatory, Washington,
1878, *December* 27.

* 1850, *Monthly Notices*, xi., p. 62; 1852, xiii., p. 181; 1860, xx., p. 292.—Ed.